U.S. Department of the Interior
Bureau of Land Management
Little Snake Field Office
455 Emerson Street
Craig, CO 81625-1129

ENVIRONMENTAL ASSESSMENT

EA-NUMBER: DOI-BLM-CO-N010-2009-0048-EA

CASEFILE/PROJECT NUMBER/LEASE NUMBER: COC61799

PROJECT NAME: Thornburg Unit Well #1

LEGAL DESCRIPTION: NENW Section 10, T11N, R92W, 6th P.M.

APPLICANT: Yates Petroleum Corporation

PLAN CONFORMANCE REVIEW: The proposed action is subject to the following plan:

> Name of Plans: Little Snake Resource Management Plan and Record of Decision (ROD) approved on April 26, 1989; and the Colorado Oil and Gas Leasing & Development Environmental Impact Statement (EIS) and the ROD signed on November 5, 1991.
>
> Remarks: The proposed Thornburg Unit Well #1 would be located within Management Unit 6 (Little Snake Resource Management Plan). One of the objectives of Management Unit 6 is to provide for the development of the oil and gas resource. The development of other resource uses/values within this unit is allowed consistent with the management objectives for oil, gas, and forest resources.

The proposed action was reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The proposed action is in conformance with the objectives for this management unit.

NEED FOR PROPOSED ACTION: To provide for the development of oil and gas resources and to supply energy resources to the American public.

PUBLIC SCOPING PROCESS: The Notice of Staking (NOS) has been posted in the public room of the Little Snake Field Office for a 30-day public review period beginning March 12, 2009 when the NOS was received, and may be viewed during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES: The proposed action would be to approve one Application for Permit to Drill (APD) submitted by Yates Petroleum Corporation. Yates Petroleum Corporation proposes to drill one gas well on BLM administered land located in the NENW Sec. 10, T11N, R92W, 6th P.M. An APD has been filed with the LSFO for the Thornburg Well #1. The APD includes drilling and surface use plans that cover mitigation of impacts to vegetation, soil, surface water, and other resources. Mitigation not incorporated by Yates Petroleum Corporation in the drilling and surface use plan would be attached by the BLM as Conditions of Approval to an approved APD.

The proposed well would be located approximately 16.2 miles south west from the town of Baggs, WY. Construction work is planned to start during the summer of 2009 and the estimated duration of construction and drilling for the well would be 90 days. A short access road would be constructed for the well. 1.3 miles of new access road would be constructed resulting in new surface disturbance of 2.2 acres. All road construction would be on lease and on BLM surface and would not require a federal Right-of-Way.

The proposed well pad would be cleared of all vegetation and leveled for drilling. Topsoil and native vegetation would be stockpiled for use in reclamation. Approximately 4.0 acres would be disturbed for construction of the well pad. This would include the 255' by 365' well pad, the topsoil, and subsoil piles. A reserve pit would be constructed on the well pad to hold drill mud and cuttings. If the well is a producer, cut portions of the well site would be backfilled and unused portions of the well site would be stabilized and re-vegetated. If the gas well proves unproductive, it would be properly plugged and the entire well pad and access road would be reclaimed.

Yates Petroleum Corporation did not include plans for a gas sales pipeline with the APD.

Total surface disturbance for the proposed action would be 6.2 acres.

NO ACTION ALTERNATIVE: The "no action" alternative is that the well would not be permitted and therefore the well would not be drilled. Yates Petroleum Corporation holds a valid and current oil and gas lease for the area where the proposed Thornburg Unit Well #1 would be located. Under leasing contracts, the BLM has an obligation to allow mineral development if the environmental consequences are not irreversible or too severe. The APD process is designed to overcome the no action situation of not accepting the APD through the mitigation of predicted environmental consequences. Since the proposed action is consistent with the ROD and the Oil and Gas Leasing EIS, the no action alternative will not be analyzed further in this EA.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES

CRITICAL RESOURCES

AIR QUALITY

Affected Environment: There are no special designation air sheds or non-attainment areas nearby that would be affected by the proposed action.

Environmental Consequences: Short term, local impacts to air quality from dust would result during and after well pad construction. Drilling operations produce air emissions such as exhaust from diesel engines that power drilling equipment. Air pollutants could include nitrogen oxides, particulates, ozone, volatile organic compounds, fugitive natural gas, and carbon monoxide. Gas flaring reduces the health and safety risks in the vicinity of the well by burning combustible and poisonous gases like methane and hydrogen sulfide.

Mitigative Measures: None.

Name of specialist and date: Shawn Wiser 05/28/09

AREA OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable.

Name of specialist and date: Kimberly Miller 06/01/09

CULTURAL RESOURCES

Affected Environment: Cultural resources, in this region of Colorado, range from late Paleo-Indian to Historic. For a general understanding of the cultural resources in this area of Colorado, see *An Overview of Prehistoric Cultural Resources, Little Snake Resource Area, Northwestern Colorado,* Bureau of Land Management Colorado, Cultural Resources Series, Number 20, *An Isolated Empire, A History of Northwestern Colorado,* Bureau of Land Management Colorado, Cultural Resource Series, Number 2 and *Colorado Prehistory: A Context for the Northern Colorado River Basin*, Colorado Council of Professional Archaeologists.

Environmental Consequences: The proposed project, Application for Permit to Drill for Thornburg Unit #1 well, has undergone a Class III cultural resource survey:

Darlington, David 2009 Class III Cultural Resource Inventory for the Yates Petroleum Corporation Thornburgh Unit No. 1 (BLM 12.10.09)

The survey identified no eligible to the National Register of Historic Places cultural resources. The proposed project may proceed as described with the following mitigative measures in place.

Mitigative Measures:
The following standard stipulations apply for this project:

1. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

2. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Name of specialist and date: Robyn Watkins Morris 06/08/09

ENVIRONMENTAL JUSTICE

Affected Environment: The proposed action would be located in an area of isolated dwellings. Oil & Gas development, ranching, and farming are the primary economic activities.

Environmental Consequences: The project area is relatively isolated from population centers, so no populations would be affected by physical or socioeconomic impacts of either alternative. The proposed action would directly affect the social, cultural or economic well-being and health of Native American, minority or low-income populations.

Mitigative Measures: None.

Name of specialist and date: Louise McMinn 06/08/09

FLOOD PLAINS

Affected Environment: Active floodplains and flood prone zones would be avoided.

Environmental Consequences: No threat to human safety, life, welfare, or property would result from the proposed action.

Mitigative Measures: None.

Name of specialist and date: Shawn Wiser 05/28/09

INVASIVE, NONNATIVE SPECIES

Affected Environment: Invasive plant species and noxious weeds occur within the affected area. Downy brome (cheatgrass), yellow alyssum, blue mustard and other annual weeds are common along roadsides and on other disturbed areas. Canada thistle and several species of biennial thistles are known to occur in this area. Halogeton has become a very noticeable problem in the affected area, as well as other areas in the western portion of Moffat County. Russian knapweed and hoary cress (whitetop) have been found in the vicinity of this project. In addition to individual efforts the BLM, Moffat County, livestock operators, pipeline companies and oil and gas operators have formed the Northwest Colorado Weed Partnership to collaborate efforts in the area of the proposed action to control weeds and find best integrated approaches to achieve these results.

Environmental Consequences: The surface disturbing activities and associated traffic involved with drilling this well, constructing the access road and subsequent activities would create an environment and provide a mode of transport for invasive species and other noxious weeds to become established. Construction equipment and other vehicles brought onto the site can introduce weed species. Wind, water, recreation vehicles, livestock and wildlife also assist with the distribution of weed seed into newly disturbed areas. The annual invasive weed species (yellow alyssum, blue mustard and other annual weeds) occur on adjacent rangelands and would occupy the disturbed areas. Bare soils and lack of competition from a perennial plant community would allow these weed species to grow unchecked and could affect the establishment of seeded plant species. Halogeton is a noxious annual weed that would also occupy the disturbed areas. This weed species would

require intensive control with herbicides to prevent it from moving into adjacent rangelands. Establishment of perennial grasses and other seeded plants is expected to provide the necessary control of invasive annual weeds within 2 or 3 years. Additional seeding treatments of the disturbed areas may be required in subsequent years if initial seeding efforts have failed.

The perennial and biennial noxious weeds in the area are less frequently established on the uplands but some potential exists for their establishment in draws and swales or areas along the road that would collect additional water. The largest concern in the project area would be for these species to become established and not be detected, providing seed which can be moved onto adjacent rangelands.

Mitigation attached as Conditions of Approval would help to control noxious weed species. All principles of Integrated Pest Management should be employed to control noxious and invasive weeds on public lands.

Mitigative Measures: None.

Name of specialist and date: Christina Rhyne 06/22/09

MIGRATORY BIRDS

Affected Environment: The proposed well would be located within nesting habitat for Brewer's sparrow and sage sparrow. Both species are listed on the USFWS 2008 Birds of Conservation Concern List.

Environmental Consequences: The proposed action would result in the long term loss of approximately 6.2 acres of nesting habitat for both Brewer's sparrow and sage sparrows. Timing restrictions intended to protect nesting greater sage-grouse would reduce impacts to both species but may not eliminate potential to impact active nest sites. There would be a low chance for take to occur as a result of the proposed action.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 06/22/09

NATIVE AMERICAN RELIGIOUS CONCERNS

A letter was sent to the Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Ute Tribal Council on May 5, 2008. The letter listed the FY08 and FY09 projects that the BLM would notify them on and projects that would not require notification. A follow-up phone call was performed on June 16, 2008. No comments were received (Letter on file at the Little Snake Field Office). This project requires no additional notification.

Name of specialist and date: Robyn Watkins Morris 06/08/09

PRIME & UNIQUE FARMLANDS

Affected Environment: Not Present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Shawn Wiser 05/28/09

T&E AND SENSITIVE ANIMALS

Affected Environment: There are no threatened or endangered species or habitats for such species present in the proposed project area. This proposed well and access road are within greater sage-grouse breeding and nesting habitat. Greater sage-grouse are a BLM special status species.

Environmental Consequences: If drilling activities were to take place during the breeding or nesting season (March 1 to June 30), significant impacts to sage grouse using this habitat would be expected. Impacts to grouse species from oil and gas development are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, displacement into less suitable habitat, nest abandonment, destruction of nests and loss of habitat. Other impacts, such as habitat fragmentation and the spread of exotic plants can also degrade sage grouse habitat (Connelly et al. 2004). Noise and increased human activity related to drilling can disrupt breeding and nesting (Connelly et al. 2004). Holloran and Anderson (2004) found a higher annual decline in male lek attendance at leks within 3.2km from drilling activity. To prevent significant impacts to sage grouse species, construction and drilling activities associated with the proposed access roads, pipelines and well pads should not be permitted from March 1 to June 30. This timing limitation would prevent accidental nest destruction, nest and lek abandonment and displacement into less suitable habitat. Individual well pad construction would not have significant negative impacts on sage grouse habitat. Greater sage-grouse have established a lek site on the existing portion of the proposed access road. In order to prevent disturbing breeding greater sage-grouse during their breeding season, no nonemergency traffic should use this road between 8pm and 10 am.

Bureau of Land Management. 1991. Colorado Oil and Gas Leasing and Development. Final Environmental Impact Statement. U.S. Dept. of Interior.

Connelly, J.W., S.T. Knick, M.A. Schroeder and S.J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.

Holloran, M.J., and S.H. Anderson. 2004. Sage-grouse response to natural gas filed development in northwestern Wyoming. Page 16 in Proceedings of the 24th Meeting of the Western Agencies Sage and Columbian Sharp-tailed Grouse Technical Committee. Wenatchee, Washington (Abstract).

Mitigative Measures: CO-30 No surface disturbing activities between March 1 and June 30 in order to protect nesting greater sage-grouse. In order to prevent disturbing breeding greater sage-grouse during their breeding season, no nonemergency traffic should use this road between 8pm and 10 am (this applies to production activities)

Name of specialist and date: Timothy Novotny 06/22/09

T&E AND SENSITIVE PLANTS

Affected Environment: There are no federally listed threatened or endangered or BLM sensitive plant species within or in the vicinity of the proposed well.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Hunter Seim 06/05/09

WASTES, HAZARDOUS OR SOLID

Affected Environment: If a release does occur, the environment affected would be dependent on the nature and volume of material released. If there are no releases, there would be no impact on the environment.

Environmental Consequences: Consequences would be dependent on the volume and nature of the material released. In most every situation involving hazardous materials, there are ways to remediate the area that has been contaminated. Short-term consequences would occur, but they can be remedied, and long-term impacts would be minimal.

Mitigative Measures: None.

Name of specialist and date: Shawn Wiser 05/28/09

WATER QUALITY – GROUND

Affected Environment: The areas affected by the proposed action are the Fort Union and Mesa Verde aquifers. The ground water quality is poor.

Environmental Consequences: With the use of proper construction practices, drilling practices, and with best management practices, no impact to groundwater aquifers would

be anticipated to result from the proposed action. The proposed action would be conducted in accordance with existing Colorado laws for water quality. Specifically, all permit activities must comply with the applicable water quality regulations in The Colorado Water Quality Control Act, and they would be in conformance with the classifications and numeric standards for water quality established by the Colorado Water Quality Control Commission.

Mitigative Measures: None.

Name of specialist and date: Jennifer Maiolo 06/08/09

WATER QUALITY – SURFACE

Affected Environment: The proposed well would be constructed near Pole Gulch, an ephemeral drainage. Any runoff from the well pad access road would drain towards Pole Gulch, which drains into Fourmile Creek. All stream segments near the well pad location are presently supporting classified beneficial uses. No impaired stream segments occur in the vicinity of the proposed action.

Environmental Consequences: Runoff water from the well site would drain toward Gledhill Draw, which is an ephemeral tributary to the Fourmile Creek. Increased sedimentation to Fourmile Creek during spring runoff or from high intensity rainstorms would be the most likely environmental consequence from the proposed action. Although some sediment may be transported off site and eventually reach perennial waters, the mitigation provided in the Surface Use Plan and the Conditions of Approval would reduce the potential impacts caused by surface runoff.

Mitigative Measures: None.

Name of specialist and date: Shawn Wiser 06/22/09

WETLANDS/RIPARIAN ZONES

Affected Environment: There are no wetlands or riparian zones in or near the proposed well site.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 06/22/09

WILD & SCENIC RIVERS

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable.

Name of specialist and date: Kimberly Miller 06/01/09

WSAs, WILDERNESS CHARACTERISTICS

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable.

Name of specialist and date: Kimberly Miller 06/01/09

NON-CRITICAL ELEMENTS

FLUID MINERALS

Affected Environment: The proposed action is in a high oil and gas occurrence zone. This well will penetrate the Fort Union, Lance, Lewis and Almond Formations.

Environmental Consequences: The proposed casing and cementing program appears to be adequate to protect and/or isolate all resources identified above.

Mitigative Measures: None.

Name of specialist and date: Jennifer Maiolo 06/08/09

RANGE MANAGEMENT

Affected Environment: The proposed Thornburg #1 well would be located in the Pole Gulch Allotment. This allotment is permitted for cattle grazing from May through November.

Environmental Consequences: The proposed well and associated road construction would remove 6.2 acres of native vegetation. This loss of vegetation and associated disturbance from vehicle traffic, noise and human presence may cause the cattle to alter their distribution pattern. This may result in over utilization of the vegetative resources in other parts of the grazing allotment. Gates leading into the allotment could be left open by the drilling crew and other personnel, which could lead to possible livestock trespass situations. The presence of livestock may hinder reclamation efforts.

Mitigative Measures: Installation of a cattleguard at gate locations would prevent livestock from leaving the allotment through an open gate. Fencing of the well pad during reclamation efforts may help the establishment of native vegetation.

Name of specialist and date: Kathy McKinstry 05/18/09

SOILS

Affected Environment: The proposed well would be located within the Rocky River sandy loam soil-mapping unit. These soils are well drained and found on alluvial fans, benches, and hillslopes. Slopes within this unit average 3 to 12 percent. Theses soils formed in eolian deposits and residuum derived from sandstone. Runoff is medium.

Environmental Consequences: The construction and operation of the proposed well would affect soils within and immediately adjacent to the proposed area of disturbance. Increased soil erosion from wind and water would occur during construction of the well pad, pipeline, and access road. Erosion would continue throughout the operational life of the well. Loss of topsoil, soil compaction, and possible increases in sediment loads to drainages are impacts most likely to occur.

Vegetation and soil would be removed from approximately 6.2 acres of land. Soil productivity would decline due to reduced soil microbial activity, impaired water infiltration, mixing of soil horizons, top soil loss, and introduction of weeds. Soil loss from construction would be greatest shortly after project start and would decrease in time as a result of stabilization through revegetation and reclamation of disturbed areas. Soil erosion would be reduced to an acceptable level with the mitigation described in the Surface Use Plan and Conditions of Approval in the approved APD. This mitigation would reduce the potential to have excessive sediments and salts in runoff water from the well site.

Mitigative Measures: Additional mitigative measures would be employed to prevent or reduce accelerated erosion if it begins to occur within or on constructed drainage and diversion ditches or surface drainages affected by the road, pipeline, or well pad.

Name of specialist and date: Shawn Wiser 06/22/09

UPLAND VEGETATION

Affected Environment: The proposed Thornburg Well #1 would be located in a Rolling Loam range site which typically supports Wyoming big sagebrush, needle and thread, Indian ricegrass, western wheatgrass, Nevada bluegrass, bottlebrush squirreltail and prairie Junegrass. Species noted during the on-site included those listed above and additionally, bluebunch wheatgrass, prickly pear cactus, whitesage (winterfat), rabbitbrush and several different forb species. The vegetation exhibited good vigor and had not received detectable grazing use.

Environmental Consequences: The proposed well would completely remove the vegetation from 6.2 acres on Federal surface. While this removal would be relatively minor in the larger landscape, it would be in addition to numerous other plant community intrusions such as other roads and wells in the allotment. Any disturbance to the native plant community could result in the increased presence of non-native plant species; therefore, weed management practices must be followed. As required, the site would be partially reclaimed if the well is a producer and completely reclaimed if the well does not produce. Aridity and weed competition may result in very slow re-establishment of the native species that are seeded during reclamation. Careful adherence to required reclamation practices will be vital to ensuring that the direct impacts of the Proposed Action do not have long-term adverse impacts to the plant community.

Mitigative Measures: Adherence to the reclamation and stabilization measures as described in the Surface Use Plan and COAs.

Name of specialist and date: Kathy McKinstry 05/18/09

WILDLIFE, TERRESTRIAL

Affected Environment: The proposed project area provides suitable habitat for pronghorn antelope, mule deer and elk. A variety of small mammals, songbirds and reptiles may also be found within the proposed project area.

Environmental Consequences: Approximately 6.2 acres of wildlife habitat would be destroyed as a result of construction and drilling of this well. This includes disturbances for the access road. Impacts to wildlife species from oil and gas development are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, displacement into less suitable habitat, increased stress and loss of habitat. Surrounding habitat in undisturbed areas should be capable of supporting any displaced wildlife. Once construction and drilling have been completed, most wildlife would be able to reoccupy areas surrounding well site. If this well produces, some wildlife may choose to avoid the well location due to human activity.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 06/22/09

OTHER NON-CRITICAL ELEMENTS:

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Fluid Minerals			See Fluid Minerals
Forest Management	SW 05/28/09		

Hydrology/Ground			See Water Quality, Ground
Hydrology/Surface			See Hydrology/Surface
Paleontology		JAM 06/08/09	
Range Management			See Range Mgmt
Realty Authorizations	LM 06/08/09		
Recreation/Travel Mgmt		KMM 06/01/09	
Socio-Economics		LM 06/08/09	
Solid Minerals		JAM 06/08/09	
Visual Resources		KMM 06/01/09	
Wild Horse & Burro Mgmt		SW 06/22/09	

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts may result from the development of the Thornburg Well #1 when added to non-project impacts that result from past, present, and reasonably foreseeable future actions. The potential exists for future oil and gas development throughout the Thornburg Unit. Other past or existing actions near the project area that have influence on the landscape are wildfire, recreation, hunting, grazing, and ranching activities.

Surface disturbance associated with oil and gas activity would increase the potential for erosion and sedimentation. Displacement of hunters and recreationists during the short-term construction and drilling periods would occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

Cumulative impacts to the plant communities within the gas lease and adjacent areas include an incremental reduction of continuity in the plant communities in terms of acreages that remain undisturbed. Loss of continuity results in smaller and smaller areas of undisturbed native vegetation and the potential for loss of integrity within the larger plant community. Fragmented plant communities can lose resilience to natural and man-made disturbance due to isolation of areas from seed sources necessary for proper age class distribution of plants, and subsequently, a greater opportunity for stressors such as drought to have a more severe impact on the plant community as a whole. The increased disturbance also makes native plant communities more susceptible to invasion by annual weeds as vectors for increasing weeds. Even with weed control measures applied, the potential for weeds to move further into undisturbed remnant areas increases as these remnants become smaller and more isolated from larger undisturbed areas.

Cumulative impacts to the livestock grazing operations in the area are also increased through the proposed action. The grazing allotment in which this well is proposed is primarily a summer cattle allotment. The growth in wells, roads, and human activity has reduced the availability of forage in this area far beyond direct impacts caused by construction. Halogeton which has increased among the new roads and well pads is toxic to livestock. The resulting impact to grazing activities permitted in the area is a loss of available Animal Unit Months (AUMs), i.e. a

loss of the amount of livestock that the allotment can reasonably carry. Due to recent years of drought, the livestock operators have only lightly used these allotments, so direct impacts to grazing activities have not been fully felt.

Habitat fragmentation from well pad construction and the associated roads have likely decreased the nesting suitability for migratory birds in the resource area. Ingelfinger (2001) found that roads associated with oil and gas development have a negative impact on passerines bird species. Bird densities were reduced within 100m of each road. Due to the amount of new road construction and an increase in traffic on these roads, passerine populations in the area are likely decreasing.

The cumulative impacts of additional wells and roads in the Thornburg Unit would continue to degrade habitat for the greater sage grouse. Fragmentation, mostly due to road construction, is an important factor contributing to a decrease in habitat quality. Disturbances such as higher traffic volume and other human activities also contribute to degradation of habitat quality. Continued oil and gas development would lead to decreased sage grouse use of the habitat.

Although big game species are able to adapt to disturbances better than other wildlife, increased development would still have impacts to mule deer and antelope. Timing stipulations adequately protect big game species during critical times of the year; however, continued oil and gas development would lead to decreased use of the habitat due to increased human activity. A significant amount of vehicle traffic occurs with oil and gas development. Impacts to big game may be vehicle-animal collisions, as these are a major cause of mortality for big game species.

References:

Ingelfinger, F. 2001. The Effects of Natural Gas Development on Sagebrush Steppe Passerines in Sublette County, Wyoming. University of Wyoming, Laramie, WY.

STANDARDS:

PLANT AND ANIMAL COMMUNITY (animal) STANDARD: The project area provides healthy productive wildlife habitat for a variety of species including big game, small mammals, song birds and reptiles. The development of the proposed well will result in a loss of approximately 6.2 acres of habitat as a result of this project. If the well produces, a larger area surrounding the well pads will likely be avoided by wildlife. Surrounding habitat is sufficient to ensure that populations are not negatively impacted by this project. This standard is currently being met and will continue to be met in the future.

Name of specialist and date: Timothy Novotny 06/22/09

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal) STANDARD: There are no threatened or endangered animals species or habitat for such species in or near the project area. The proposed well site is within greater sage-grouse breeding and nesting habitat. Greater sage-grouse are a BLM special status species. If construction or drilling

activities were conducted during the nesting season, it is likely that greater sage-grouse nesting success would decrease in the project area. Timing restrictions will ensure that breeding and nesting sage-grouse are protected from disturbances. The loss of six acres of nesting habitat is not likely to affect sage-grouse however; human activity associated with this development and production wells may preclude sage-grouse use of the area in the future. This standard is currently being met. This project alone will not preclude this standard from

Name of specialist and date: Timothy Novotny 06/22/09

PLANT AND ANIMAL COMMUNITY (plant) STANDARD: The Proposed Action would completely remove 6.2 acres of native vegetation. As long as the COAs concerning revegetation and weed control are faithfully adhered to, the native plant community would eventually return and non-native species would be kept in check, and thus meet this standard.

Name of specialist and date: Kathy McKinstry 05/18/09

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant) STANDARD: There are no federally listed threatened or endangered or BLM sensitive plant species within or in the vicinity of the proposed well. This standard does not apply.

Name of specialist and date: Hunter Seim 06/05/09

RIPARIAN SYSTEMS STANDARD: There are no wetlands or riparian zones present within the proposed project area. This standard does not apply.

Name of specialist and date: Timothy Novotny 06/22/09

WATER QUALITY STANDARD: The proposed action would meet the public land health standard for water quality. Reclamation of the pipeline corridors would be completed immediately after installation to minimize sheet and rill erosion from the corridor. Interim reclamation of the unused area on the well pad would be completed to minimize sheet and rill erosion from the well site. When the well pad is no longer needed for production operations, the disturbed well pad and access road would be reclaimed to approximate original contours, topsoil would be redistributed, and adapted plant species would be reseeded. These Best Management Practices would help to reduce accelerated erosion of the sites. No stream segments near this project are listed as impaired.

Name of specialist and date: Shawn Wiser 05/28/09

UPLAND SOILS STANDARD: The proposed action would not meet the upland soil standard for land health, but it is not expected to while the well locations, pipelines, and access roads are used for operations. The well pad sites, pipeline corridors, and access roads would not exhibit the characteristics of a healthy soil. Several Best Management Practices have been designed into the project or are attached as mitigating measures that would reduce impacts to and conserve soil materials. Upland soil health would return to the well pads, pipeline corridors, and access roads

disturbances after reclamation practices and well abandonments have been successfully achieved.

Name of specialist and date: Shawn Wiser 05/28/09

PERSONS/AGENCIES CONSULTED: Uintah and Ouray Tribal Council, Colorado Native American Commission, Colorado State Historic Preservation Office.

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
DOI-BLM-CO-N010-2009-0048-EA

Based on the analysis of potential environmental impacts contained in the EA and all other available information, I have determined that the proposal and the alternatives analyzed do not constitute a major Federal action that would adversely impact the quality of the human environment. Therefore, an EIS is unnecessary and will not be prepared. This determination is based on the following factors:

1. Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests, or the locality. The physical and biological effects are limited to the Little Snake Resource Area and adjacent land.

2. Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.

3. There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands, floodplain, areas with unique characteristics, ecologically critical areas, or designated Areas of Critical Environmental Concern.

4. There are no highly controversial effects on the environment.

5. There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.

6. This alternative does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State, or local natural resource related plans, policies, or programs.

7. No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.

8. Based on previous and ongoing cultural surveys, and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.

9. No adverse impacts to any threatened or endangered species or their habitat that was determined to be critical under the Endangered Species Act were identified. If, at a future time, there could be the potential for adverse impacts, treatments would be modified or mitigated not to have an adverse effect or new analysis would be conducted.

10. This alternative is in compliance with relevant Federal, State, and local laws, regulations, and requirements for the protection of the environment.

DECISION AND RATIONALE:
I have determined that approving this APD is in conformance with the approved land use plan. It is my decision to implement the project with the mitigation measures provided in the Application for Permit to Drill and the Conditions of Approval. The project will be monitored as stated in the Compliance Plan outlined below.

MITIGATION MEASURES: The mitigation measures for this project are found in the file room of the Little Snake Field Office. The APD 12-point surface use plan, well location maps, and the Conditions of Approval are found in the well case file labeled COC61799, Thornburg Well #1.

COMPLIANCE PLAN(S):

Compliance Schedule
Compliance will be conducted during the construction phase and drilling phase to insure that all terms and conditions specified in the lease and the approved APD are followed. In the event a producing well is established, periodic inspections as identified through the Inspection and Enforcement Strategy and independent well observations will be conducted. File inspections will include a review of all required reports and the Monthly Report of Operations will be evaluated for accuracy.

Monitoring Plan
The well location and access road will be monitored during the term of the lease for compliance with pertinent Regulations, Onshore Orders, Notices to Lessees, or subsequent COAs until final abandonment is granted; monitoring will help determine the effectiveness of mitigation and document the need for additional mitigative measures.

Assignment of Responsibility
Responsibility for implementation of the compliance schedule and monitoring plan will be assigned to the Fluid Mineral staff in the Little Snake Field Office. The primary inspector will be the Petroleum Engineering Technician, but the Petroleum Engineer, Natural Resource Specialist, Realty Specialist, and Land Law Examiner will also be involved.

SIGNATURE OF PREPARER:

DATE SIGNED:

SIGNATURE OF ENVIRONMENTAL REVIEWER:

DATE SIGNED:

SIGNATURE OF AUTHORIZED OFFICIAL:

DATE SIGNED: